

ABSTRACT OF DISCLOSURE

A lithium secondary battery of the present invention comprises a positive electrode; a negative electrode; a separator interposed between the positive and negative electrodes; and an electrolyte on the separator, wherein the electrolyte includes a non-aqueous organic solvent, a lithium salt, 5 and a linear polymer having P=O bonds. The electrolyte improves the swelling characteristics of lithium secondary batteries. A lithium secondary battery with the electrolyte and a method for preparing the electrolyte and battery is described.